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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 09/409,644
Filing Date: October 01, 1999
Appellant(s): LEWIS ET AL.

Joseph R. Baker, Jr.
For Appellant

SUPPLEMENTAL EXAMINER'S ANSWER

This is in response to the appeal brief filed April 25, 2005.

(1) Real Party in Interest

A statement identifying the real party in interest was contained in the brief.

(2) Related Appeals and Interferences

A statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the reply brief.

(3) Status of Claims

The statement of the status of the claims contained in the brief is correct.

(4) Status of Amendments After Final

The Appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The Appellant's statement of the grounds of rejection to be reviewed on appeal in the reply brief is substantially correct. The grounds of rejection are as set forth in the examiner's answer and include the obviousness-type double patenting rejection as set forth as a new grounds of rejection therein.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

The evidence relied upon in the rejection of claims under appeal is the same as previously set forth in the examiners answer.

(9) Grounds of Rejection

The ground(s) of rejection applicable to the appealed claims are the same as previously set forth in the examiners answer. This supplemental examiner's answer does not contain a new ground of rejection.

(10) Response to Argument

The response to the arguments of the brief is given in the examiner's answer. Relative to the arguments of the reply brief, the following comments are added.

With respect to the presentation of a new ground of rejection in the examiner's answer being against the rules, it is noted that the rules changed effective September 13, 2004. In this change a new ground of rejection is permitted (see 37 CFR 41.39(a)(2) and MPEP 1207.03, Rev. 3, August 2005). All appeal briefs filed after the effective date are subject to the new rules. Since the appeal brief in the instant application was filed April 25, 2005, it is subject to the new rules that permit a new ground of rejection to be entered. Thus the new ground of rejection was proper.

Relative to the standard used in the obviousness-type double patenting rejection applied as the new ground of rejection, appellant simply alleges that the standard was incorrect without explaining why it is not the correct standard. An equivalent way to state what examiner used as the basis for the rejection is that the scope of the pending claims totally encompasses the patented claims. In this respect the patented claims constitute a species of the pending broader (genus) claims. Since a genus claim is obvious in view of its species, the pending claims are obvious in view of the narrower patented claims. What examiner said was that one could not practice the narrower (species) claims without practicing (infringing) the broader (genus) claims.

Relative to the argument that the proposed modification would render the prior art unsatisfactory for its intended purpose, examiner points to page 9 of the reply brief in the paragraph citing the *In re Gordon* decision. Following the next two sentences following the *In re Gordon* cite are relevant and are reproduced below with added emphasis.

> "In other words, the proposed modification cannot change the principle of operation of a reference. **If the proposed modification or combination of the prior art would change the principle of operation *of the prior art being modified***, then the teachings of the references are not sufficient to render the claims *prima facie* obvious."

The bold emphasized portion clearly states that it is the principle of operation of the prior art being modified **that must not be changed** by the proposed modification. Thus in this instance it is the principle of operation of the Gibson reference, not those of the secondary references, that must be considered. As appellant clearly admits in the first paragraph of page 3 of the reply brief, the Gibson reference is a conductometric sensor. In other words, the Gibson reference has an operating principle that is equivalent to (the same as) the instantly claimed sensor operating

principle. The proposed modification of Gibson is the addition of conductive particles to Gibson's conductive polymer sensing element as taught by Casella, Thackeray, Yamato, Naarmann, Li, Sakaguchi and Wampler or alternatively substitution of the particle containing conductive polymer membranes of these secondary references for the conductive polymer sensing elements of Gibson. This proposed modification would have been recognized by one of skill in the art as not changing the principle of operation of the Gibson reference. One way to see this is the fact that the Barisci reference teaches polypyrrole (PPy) as the conductive polymer used in both types of sensors. If the argument is directed toward the teachings of Gibson, then it appears that appellant is arguing that the instantly claimed devices operate different from the same structure excluding the conductive particles. This is clearly not the case and the argument, to the extent that it is directed to the operation principle of the secondary (unmodified/modifying) references or primary (modified) reference, has no merit.

Relative to the differences between conductometric and electrochemical sensors, examiner does not dispute that there are differences. However, there are two primary questions that must be answered. First, is the art analogous and second is there motivation to make the change. Relative to the first question, examiner has relied on Barisci as a teaching reference showing the references to be analogous and providing basis that one of ordinary skill in the art would have recognized or expected that interactions of the analyte with the membranes used in electrochemical sensors would have resulted in changes that are also measurable with conductometric sensors. One way that Barisci does this is by teaching polypyrrole as the conductive polymer used as the membrane in both types of sensors as noted above. Relative to motivation for making the change, the Casella, Thackeray, Yamato, Naarmann, Li, Sakaguchi and Wampler references teach or show improvement in one or more properties of sensors using the conductive particle containing conductive polymer materials compared to the conductive polymer materials alone. Thus the references are analogous and there is motivation to make the proposed modification. Relative to the inertness of the Casella PANi films, examiner notes that the term inert is found only in the conclusion of page 224 of the reference. Since this is the conclusion section, what appears therein must be the result of another portion of the paper. Section 3.1 (pages 219-220) presents a discussion of the characterization of the electrode material. This section deals with the physical degradation of the polymer by its surrounding

environment and teaches that within a certain potential range the electrode material (polymer) is stable or inert against physical degradation through hydrolysis. This is to be distinguished from appellant's use of invisible to describe the Casella material. If the material were invisible, then its presence would not affect the interaction between the electrode and the sample measured by the electrode. In other words, if the polymer were invisible, then its presence or absence would have no affect on the electrode response to the sample. That this is false can be seen in the conclusion on page 224. The material is characterized as having a powerful catalytic activity toward the electro-oxidation of substances that are scarcely electroactive or the material makes a big difference in measuring scarcely electroactive substances. Since the membrane does make a difference, the membrane is not invisible. The membrane is inert meaning that it did not degrade in the measuring environment.

Relative to the argument regarding the sensitivity of the materials in the secondary references to vapor or gaseous analytes, examiner points to the Thackeray reference. As seen in the title the conductivity of electrochemical devices varies based on the presence of hydrogen or oxygen (gases) in aqueous solution. It seems that appellant is arguing that the electrochemical devices cannot measure gaseous analytes contrary to the Thackeray reference showing that they can. Appellant has not shown that hydrogen or oxygen, notoriously well known gases, are converted to ions for measurement in the Thackeray reference. Additionally, the Gibson reference is clearly measuring gases directly and the Barisci reference shows that the same membrane can function in both types of sensors. In this respect Gibson teaches using polythiophenes in the sensor (page 3, line 1 and page 13, line 4) and Thackeray uses a polythiophene (poly(3-methylthiophene)) as the particle containing (sensing) membrane.

Relative to the argument directed toward the Stetter reference, examiner never alleged that the polymer of Stetter was conductive. Stetter was used to show the equivalence of various conductive particles in conductive sensors. Additionally the Stetter reference is a secondary reference and not the reference being modified. The unexpected results, if any, should be based on the closest prior art which examiner has shown in the examiner's answer to be the Gibson reference. As such the showing of the instant application fails to meet the test for unexpected results.

Relative to the teaching away argument, examiner notes that the Breheret, Mifsud, Moy and Persaud references are not applied to claims such as 98 and 104-105. This is because their teachings are not needed for these claims. The combination of Gibson with Barisci and Casella, Thackeray, Yamato, Naarmann, Li, Sakaguchi and Wampler are all that is needed to show the obviousness of these claims. However, the requirements of claims 114, 116, 136, 138 and 158 differ from the teachings of Gibson by requiring temperature control and/or the provision of other sensors in the array that are different in their sensing layer or method of sensing the analytes. These references show that arrays with temperature control and sensors that are not conductive organic polymers expand the utility of the devices incorporating the arrays. This clearly provides motivation to show the obviousness of adding these features to the Gibson device. This modification of the Gibson teachings is different and distinct from the modification of Gibson by the teachings of Casella, Thackeray, Yamato, Naarmann, Li, Sakaguchi and Wampler. As such, the teachings do not take away from the combined teachings that the modify Gibson with the teachings of Casella, Thackeray, Yamato, Naarmann, Li, Sakaguchi and Wampler.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,
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Primary Examiner

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